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## TRANSMITTAL FORM

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Total Number of Pages in This Submission

19

|                        |                |
|------------------------|----------------|
| Application Number     | 10/669,282     |
| Filing Date            | 09/24/2003     |
| First Named Inventor   | Arthur Ballato |
| Art Unit               | 2817           |
| Examiner Name          |                |
| Attorney Docket Number | CECOM 5501     |

### ENCLOSURES (Check all that apply)

- |   |  |   |
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| <input type="checkbox"/> Fee Transmittal Form<br><input type="checkbox"/> Fee Attached<br><input checked="" type="checkbox"/> Amendment/Reply<br><input type="checkbox"/> After Final<br><input type="checkbox"/> Affidavits/declaration(s)<br><input type="checkbox"/> Extension of Time Request<br><input type="checkbox"/> Express Abandonment Request<br><input type="checkbox"/> Information Disclosure Statement<br><input type="checkbox"/> Certified Copy of Priority Document(s)<br><input type="checkbox"/> Response to Missing Parts/<br>Incomplete Application<br><input type="checkbox"/> Response to Missing Parts<br>under 37 CFR 1.52 or 1.53 | <input type="checkbox"/> Drawing(s)<br><input type="checkbox"/> Licensing-related Papers<br><input type="checkbox"/> Petition<br><input type="checkbox"/> Petition to Convert to a<br>Provisional Application<br><input type="checkbox"/> Power of Attorney, Revocation<br>Change of Correspondence Address<br><input type="checkbox"/> Terminal Disclaimer<br><input type="checkbox"/> Request for Refund<br><input type="checkbox"/> CD, Number of CD(s) _____ | <input type="checkbox"/> After Allowance communication<br>to Technology Center (TC)<br><input type="checkbox"/> Appeal Communication to Board<br>of Appeals and Interferences<br><input type="checkbox"/> Appeal Communication to TC<br>(Appeal Notice, Brief, Reply Brief)<br><input type="checkbox"/> Proprietary Information<br><input type="checkbox"/> Status Letter<br><input checked="" type="checkbox"/> Other Enclosure(s) (please<br>Identify below):<br>RETURN RECEIPT POST CARD |
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Remarks

### SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

|                               |   |
|-------------------------------|---|
| Firm<br>or<br>Individual name | U.S. Army CECOM<br>ATTN: AMSEL-LG-L (George B. Tereschuk, Esq.)<br>Fort Monmouth, NJ 07703-5010 |
| Signature                     |   |
| Date                          | 17 May 2004   |

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| Typed or printed name | URSULA BUKI |      |             |
| Signature             |             | Date | 17 May 2004 |

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Ursula Buki  
Ursula Buki

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of: **BALLATO et. al**

Application Serial No.: **10/669,282**

Application Filed: **September 24, 2003**

For: **ELECTRODE-FREE RESONATOR STRUCTURES FOR FREQUENCY  
CONTROL, FILTERS AND SENSORS**

Attorney Docket No.: **CECOM 5501**

ART UNIT: 2817

Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia, 22313-1450

**INTRODUCTORY COMMENTS FOR PRELIMINARY AMENDMENT**

Sir:

This is a Preliminary Amendment to a Patent Application. In accordance with Revised  
Amendment Format, please amend the Patent Application as set forth in the enclosed  
Amendments To The Claims and Amendments To The Specification, which are all supported by  
the enclosed Remarks.

Should the Examiner require further information, the Examiner is invited to telephone the  
applicants' attorney at the telephone number listed below.

17 May 2004

DATE

Respectfully Submitted,

George B. Tereschuk  
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**PRELIMINARY AMENDMENT**

**AMENDMENTS TO THE CLAIMS**

Sir:

In accordance with the enclosed Remarks and the Revised Amendment Format, please amend the claims in the above-identified application as follows:

1. (Currently Amended) A double-sided electrode-free resonator device, comprising:  
a double-sided mesa resonator plate with a top surface, a top well, a mesa, a bottom well  
and a bottom surface;  
a top electrode, being deposited on said top surface and having a top narrow portion and a  
top wide portion, extends into said top well surrounding said mesa, allowing said mesa to  
protrude upwards;  
a bottom electrode, being deposited on said bottom surface and having a bottom narrow  
portion and a bottom wide portion, extends into said bottom well surrounding said mesa,  
allowing said mesa to protrude downwards;  
said mesa providing an electrode-free resonator area;  
a resonator is provided in said resonator area, said resonator having a top resonator  
portion, a bottom resonator portion and a resonator thickness dimension,  $t_3$ , measured from said  
top resonator portion to said bottom resonator portion;  
an exposed top portion of the mesa situated between said resonator and said resonator